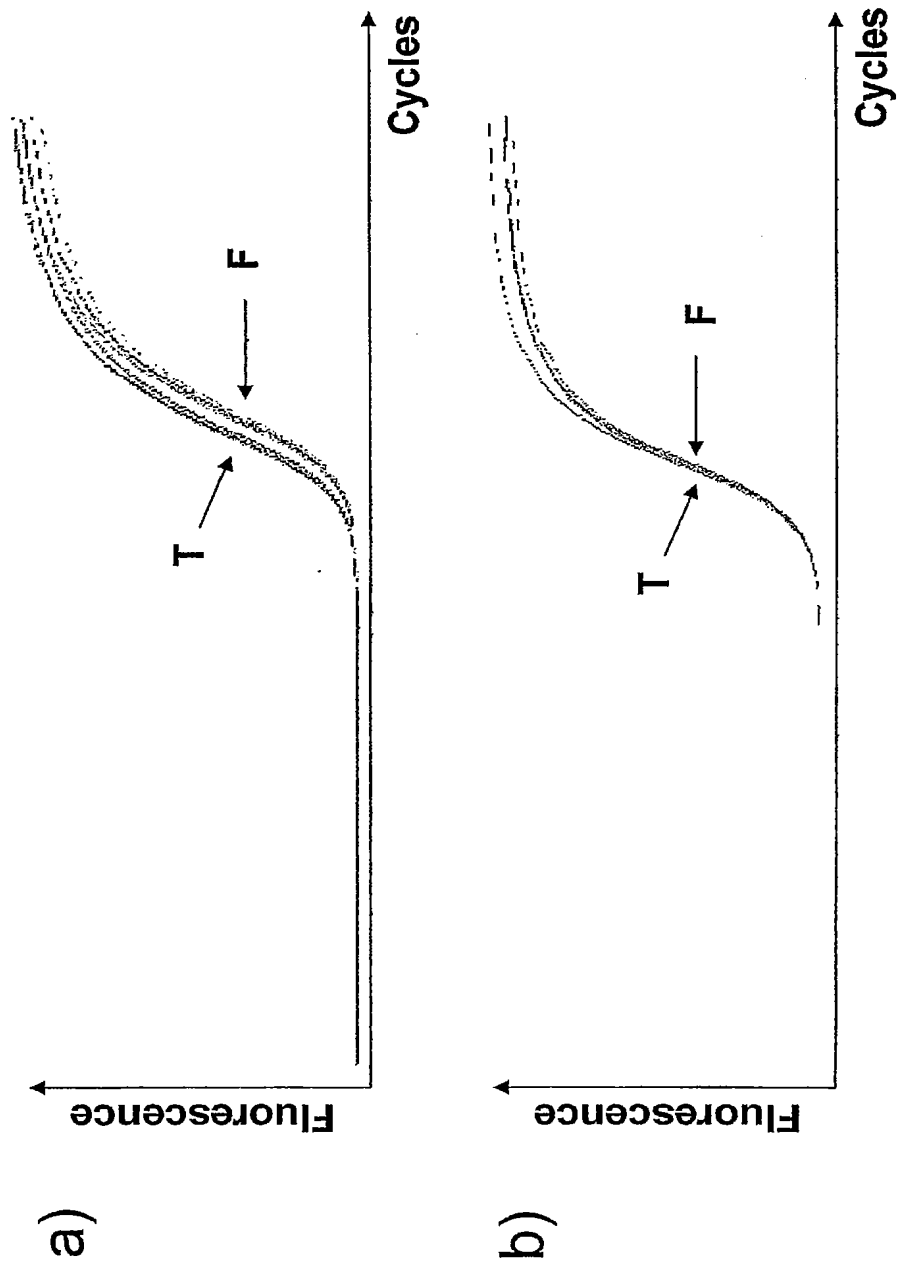


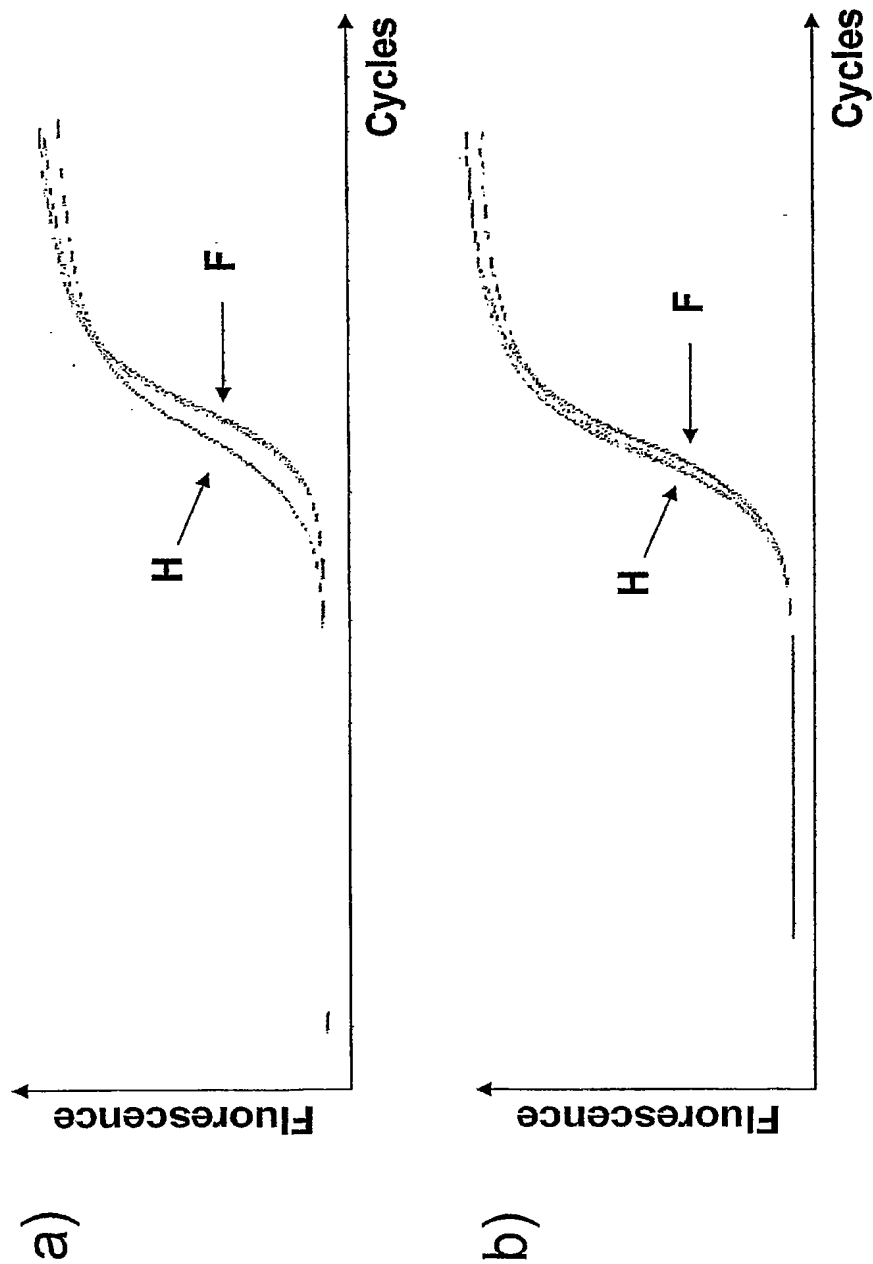
-1/13-

**Fig. 1: Verification of differential expression
of human SGPL1 by quantitative RT-PCR**



-2/13-

**Fig. 2: Verification of differential expression
of human SGPL1 by quantitative RT-PCR**



-3/13-

**Figure 3 : SEQ ID NO. 1:
amino acid sequence of
human SGPL1 protein**

Length: 568 aa

1	MPSTDLLMLK	AFEPYLEILE	VYSTKAKNYV	NGHCTKYEPW	QLIAWSVVWT
51	LLIVWGYEFV	FQPESLWSRF	KKKCFKLTRK	MPIIGRKIQD	KLNKTKDDIS
101	KNMSFLKVDK	EYVKALPSQG	LSSSAVLEKL	KEYSSMDAFW	QEGRASGTVY
151	SGEEKLTELL	VKAYGDFAWS	NPLHPDIFPG	LRKIEAEIVR	IACSLFNGGP
201	DSCGCVTSGG	TESILMACKA	YRDLAFEKGI	KTPEIVAPQS	AHAAFNKAAS
251	YFGMKIVRVP	LTKMMEVDVR	AMRRAISRNT	AMLVCSTPQF	PHGVIDPVPE
301	VAKLAVKYKI	PLHVDACLGG	FLIVFMEKAG	YPLEHPFDFR	VKGVTISISAD
351	THKYGYAPKG	SSLVLYSDKK	YRNYQFFVDT	DWQGGIYASP	TIAGSRPGGI
401	SAAAWAALMH	FGENGYVEAT	KQIIKTARFL	KSELENIKGI	FVFGNPQLSV
451	IALGSRDFDI	YRLSNLMTAK	GWNLNQLQFP	PSIHFCITLL	HARKRVAIQF
501	LKDIRESVTQ	IMKNPKAKTT	GMGAIYGMAQ	TTVDRNMVAE	LSSVFLDSLY
551	STDVTVTQGSQ	MNGSPKPH			

-4/13-

**Figure 4: SEQ ID NO. 2:
human SGPL1 cDNA
nucleotide sequence**

Length: 5741 bp

```

1   GCGGCTGCCG GGCCTCCAAT CTCGGCGGCG GCGGCGGCAA CAGGGGAGCC
51  TGGGTCTCGC GGCCTGCGAG TCCGTCGCGT GCTGAGGGAG ACGCAGGAGG
101 TGGAGCCGGC CGGGTGCTCG AGGGAAGGAG ACTGGAAGCT GGTTCGGGCG
151 TGAGGAGAGT CTGAAAAAGG GGAGCGCGGA GAGGAGGCTG GAAGAGGAAG
201 ATGCCTAGCA CAGACCTTCT GATGTTGAAG GCCTTTGAGC CCTACTTAGA
251 GATTTTGGAA GTATACTCCA CAAAAGCCAA GAATTATGTA AATGGACATT
301 GCACCAAGTA TGAGCCCTGG CAGCTAATTG CATGGAGTGT CGTGTGGACC
351 CTGCTGATAG TCTGGGGATA TGAGTTTGTC TTCCAGCCAG AGAGTTTATG
401 GTCAAGGTTT AAAAAGAAAT GTTTTAAGCT CACCAGGAAG ATGCCCATTA
451 TTGGTCGTAA GATTCAAGAC AAGTTGAACA AGACCAAGGA TGATATTAGC
501 AAGAACATGT CATTCCTGAA AGTGGACAAA GAGTATGTGA AAGCTTTACC
551 CTCCAGGGT CTGAGCTCAT CTGCTGTTTT GGAGAACTT AAGGAGTACA
601 GCTCTATGGA CGCCTTCTGG CAAGAGGGGA GAGCCTCTGG AACAGTGTAC
651 AGTGGGGAGG AGAAGCTCAC TGAGCTCCTT GTGAAGGCTT ATGGAGATTT
701 TGCATGGAGT AACCCCTGTC ATCCAGATAT CTTCCAGGA CTACGCAAGA
751 TAGAGGCAGA AATTGTGAGG ATAGCTTGTT CCCTGTTCAA TGGGGGACCA
801 GATTCGTGTG GATGTGTGAC TTCTGGGGGA ACAGAAAGCA TACTGATGGC
851 TGCAAAGCA TATCGGGATC TGGCCTTTGA GAAGGGGATC AAAACTCCAG
901 AAATTGTGGC TCCCCAAAGT GCCCATGCTG CATTTAACAA AGCAGCCAGT
951 TACTTTGGGA TGAAGATTGT GCGGGTCCCA TTGACGAAGA TGATGGAGGT
1001 GGATGTGCGG GCAATGAGAA GAGCTATCTC CAGGAACACT GCCATGCTCG
1051 TCTGTTCTAC CCCACAGTTT CCTCATGGTG TAATAGATCC TGTCCCTGAA
1101 GTGGCCAAGC TGGCTGTCAA ATACAAAATA CCCCTTCATG TCGACGCTTG
1151 TCTGGGAGGC TTCTCATCG TCTTTATGGA GAAAGCAGGA TACCCACTGG
1201 AGCACCCATT TGATTTCCGG GTGAAAGGTG TAACCAGCAT TTCAGCTGAC
1251 ACCCATAAGT ATGGCTATGC CCCAAAAGGC TCATCATTTG TGTGTATAG
1301 TGACAAGAAG TACAGGAAC ATCAGTTCTT CGTCGATACA GATTGGCAGG
1351 GTGGCATCTA TGCTTCCCCA ACCATCGCAG GCTCACGGCC TGGTGGCATT
1401 AGCGCAGCCT GTTGGGCTGC CTTGATGCAC TTCGGTGAGA ACGGCTATGT
1451 TGAAGCTACC AAACAGATCA TCAAACTGC TCGCTTCCTC AAGTCAGAAC
1501 TGGAAAATAT CAAAGGCATC TTTGTTTTTG GGAATCCCCA ATTGTCAGTC
1551 ATTGCTCTGG GATCCCGTGA TTTTGACATC TACCGACTAT CAAACCTGAT
1601 GACTGCTAAG GGGTGGAAC TGAACCAAGT GCAGTTCCCA CCCAGTATTC
1651 ATTTCTGCAT CACATTACTA CACGCCCGGA AACGAGTAGC TATACAATTC
1701 CTAAAGGACA TTCGAGAATC TGTCACTCAA ATCATGAAGA ATCCTAAAGC
1751 GAAGACCACA GGAATGGGTG CCATCTATGG CATGGCCCAG ACAACTGTTG
1801 ACAGGAATAT GGTTGCAGAA TTGTCCTCAG TCTTCTTGGA CAGCTTGTAC
1851 AGCACCGACA CTGTCACCCA GGGCAGCCAG ATGAATGGTT CTCCAAAACC
1901 CCACTGAACT TGGACCCTTT CTAGTCTCAA GGGGATTCCA GCCTTCAGAA
1951 GGTTCCTTGGG ATATGGAACA GGCCGTGCAC AACTTTGACA TCTGGTCTTG

```

-5/13-

```

2001 CTCCATAGAG CACAAC TCAA GATAGACCAT GAGACAGCTT GAGCCTCAGG
2051 ATTCTTGTTT TTCCTCTTAT CTTCCFTTTTG TGGTTTTTTAA TTTGAAGACC
2101 CCAGAGAATT CCATTACATA ATGATTTTGC CCTTGTTATA AATGTTACCC
2151 TAGGAATTGT TTTAACCATT TCCTTTTCTA AACTCTCTAG CTTTCAACTT
2201 TACTTAAACA TTGTGTGGTA GCTCTGACCT GTCCTGATTC TTTAGAGAAG
2251 CTGGGGTACA GTTTATGAGA TAGCTAGAGC TTCTTTGTTA TCTCAGGCAG
2301 GAGGCGTTTA CATAACAGAT GTTTCCTCAG CTGGGTGTGA GGTATACTCT
2351 AAGCAGGAGG CTTTTTCAGC CTTCTCTCTC TTTTTTTTTT TTTTTTTTTT
2401 TTGAGATGGA ATTTTGCTCT TTTGCCCAGT CTGGAGTGCA GTGGCATGAT
2451 CTCAGCTCAC TGCAACCTCC ACCCACTGGG TTCAAGCGAT TCTTCTGCCT
2501 CAGCCTCCCG AGTAGCTGGG ATTACCGGCA CCCACCACCA CGCCTGGCTA
2551 ATTTTTC AAT TTTCTTTTTT AGTAGAGACG GGTTACCCGT GTTGGCCAGG
2601 CTGGTCTTGA ACTCCTGACC TCAGGTGATA CCCGCCCCC CGCCTCAGCC
2651 TCCCAAAGTG CTGGGATTAC AGGCGTGAGC CACCGTGCC TGGCCTGTCT
2701 CTCTTAAGAG TAGGTTCAAT GTCTGTCTTA GAGTCACTTC TATTGCAACT
2751 CATTTTCTTT TTCCAGGGCA CAGATCGACC AAGCTGCCGT TCCCTATTCT
2801 GCAGGACAGG ACTATTCTAG CATACTGCT TCGTCCACCC AGGCAGGGTT
2851 TGGGGTGGTC TCTTCTGTGC CTGCAGTCCC CATTTGACAC TTGGTTGCCA
2901 CCATCTTTGG AGATTATTGT TTGGAATGAT GCTTCCATTG GCTTTTCTT
2951 GTTACCATGG ACTAGGAAGA AAACATGGT TCCAAATAAT CTGGGAGCTT
3001 TTGGCCATGG TGCCGCCTTC CTGAATTGGC AGTGGTCAGA GCACACCTGA
3051 ACCCTATCCT GGGCTGGTGA TGAGCAGAAA TCAGACCTTT TTCTATGCTT
3101 TTTTGAATAT CAGAGTAGGA TGAACACCCA GATTCAAATA TGTACCAAAA
3151 TTTGGTGGTG GTCTTCCCT GCACCCTTGC GTTAAGCCAT TATGTAATGA
3201 AAATGTGTTT GCTTGAAGGA ACAGCTCAAA GCACCTTCAC AAGTTGCCTT
3251 GACTTACCCT AGGTGGGTGT GAAAGAGCAC CCGTAGCAAG GAAAAATTTT
3301 TCTATTAGTG TGTCTTCTG CCTCTTCCCC CTTGATTGAG CTTTCAGAGG
3351 TACTATGGCA GTTTTGCCTC AGGTGCTGAA CATTCTCAG CCCTGGCTAA
3401 AAGGGAGCAG CACAGGGAGA GAAACAGGAT AGGAAAGCAG AATGGCGAGC
3451 AGCCTATGGC CCAGGGCCTG TAATCCCTTC CCAAGACTAG CTGCTCAGGG
3501 TGGTGCAGGG ACAGGACCAG ACCCTGCGCC TATTTCTGCT CTTCTTTCCC
3551 CTATAGGGAA CTCTGTAGGC TGAGCCACTG TCCTGCTCTT ATGACATTAT
3601 ATCTTGTGCC TTTCTCCTCA GCAGTGAGCA GTGAGCTACT CCTGGCCCAG
3651 GCCCTAGGGG AAATGGATCA GTCTTTGAGG TTTCTATTTG GGGAGGGGAG
3701 TACTTAAGAT GAGTCAAAAG ACACCTTCCCT CTGTTCCATT CCCCATCTCA
3751 GGGACTCCTG AATATTCAGC CTCTCCAGGC TGGTGTCTTC TAGTTTCCCC
3801 CACTGGGAAT GCTGGCTGGG AGAGCCATGA CTACCAGACT TTTCTCAGG
3851 CTCCTTGGCA TGTTAGTCTG AATTGTTCTT GAGCACTGTA CTACTGACCC
3901 AACAACTGTG ACTAGCTGGC CACGCCATTC AGGGCTGGTG TGGCATTTAT
3951 GTGTGTGTGT GTGTGTGTGT GTTTTTCTTG TTTGCCCAGC AGTGCAATTGT
4001 GGGTTCCAAG AGTGGGTAGT GTGTGTATGT GTGTGTGTCA GAGGGAGACC
4051 TGGCAGGCAC CTCTTTGAGA GTAGCTGTGG TCAGAGCTGT TTGGTCAGTG
4101 CATTATGTTG AATGAGGTCC AGGAACCCAG AGCCACCCAG CAGACACCAC
4151 TGTGGCTTGC CAGCTGCCAA GATGGAGAAG CATGTGCCCC TGTAGAGCGT
4201 CTCCCAGAA CCAGACCCCG AGCCACTCGC TTCTCTGTG CTGTGACAAC
4251 ATTGGTGCCA GGGGAGATGG TGTTTTTCAA AGGGACCTAC TGTAGCCACT
4301 TTAATTTACA ATTAAGAGCC TAGTTTGTG TTAACACTTT TGTAGGCTTT
4351 TCATTGTGTA TTTTGTGTA TGTGTGCATA TAGCAGCTAC TCTGTAGCAG
4401 AGGTGGGTAG AGACACTTAA TAGTATCATG TCGCATGCAG ATGTCACATC

```

-6/13-

```
4451  GGCCCTCTGCA AAAACTGTAC TGTCTTGTTT CTGCATTAGA CTTAAGTAGT
4501  CATGTGAATA TACTGCTATG TCACTTTTAA TATTACGAGT TTTATACTTG
4551  GAAAAATGGTA CTTGCTTCTT TTAAATCTCT GTCTTCTCTA ACCTCCCCCT
4601  TCCCATTTC A TGCTCCCTT CCTAATTTCA GCAATAATCT CAAAAAGCAA
4651  TTAAATAGTT AAATGACCCT AATTGTAAAT ACTGTGGATG GTTGCATTCA
4701  TTTGATTACT TGGGCACACA CGAGATGACA AATGGGGCAG TGGCCATGCT
4751  TGAATGGGCT CCTGGTGAGA GATTGCCCCC TGGTGGTGAA ACAATCGTGT
4801  GTGCCCCTG ATACCAAGAC CAATGAAAGA GACACAGTTA AGCAGCAATC
4851  CATCTCATTT CCAGGCACCT CAATAGGTCG CTGATTGGTC CTTGCACCAG
4901  CAGTGGTAGT CGTACCTATT TCAGAGAGGT CTGAAATTC A GGTCTTAGT
4951  TTGCCAGGGA CAGGCCCTAT CTTATATTTT TTTCCATCTT CATCATCCAC
5001  TTCTGCTTAC AGTTTGCTGC TTACAATAAC TTAATGATGG ATTGAGTTAT
5051  CTGGGTGGTC TCTAGCCATC TGGGCAGTGT GGTTCCTGCT AACCAAAGGG
5101  CATTGGCCTC AAACCCTGCA TTTGGTTTAG GGGCTAACAG AGCTCCTCAG
5151  ATAATCTTCA CACACATGTA ACTGCTGGAG ATCTTATTCT ATTATGAATA
5201  AGAAACGAGA AGTTTTTCCA AAGTGTTAGT CAGGATCTGA AGGCTGTCAT
5251  TCAGATAACC CAGCTTTTCC TTTTGGCTTT TAGCCCATTC AGACTTTGCC
5301  AGAGTCAAGC CAAGGATTGC TTTTGTGCTA CAGTTTCTG CCAAATGGCC
5351  TAGTTCCTGA GTACCTGGAA ACCAGAGAGA AAGAGGATCC AGGATGTACT
5401  TGGATGAGGA GGCCTGGCTT ATCTAGGAAG TCGTGTCTGG GGTGCTTATT
5451  GCTGCTCCAT ACAGCTGTAC GTCAGCCCCT TGGCCTTCTC TGTAGGTTCT
5501  TGGCAGCAAT GAGCAGCTTT CACTCAGTGA CACAAGTAAT TACTGAGTCC
5551  TAATTTGATA GCCACCAACT GTACCTGGGT AGGCAAAGTC AGATTTTTGA
5601  GAACCTTTTT CCTGATTGTA AGTTTAAATT ACCTTATTTT CTTTATGCT
5651  TTCCTCTGTC TTGTAATCTT TTCTCTTCTT AATATCCTTC CCTATAATTT
5701  CAATTATTTG GATTAATTTT AGAATAAACC TATTTATTTT T
```

-7/13-

**Figure 5: SEQ ID NO. 3: nucleotide
sequence of human
SGPL1 coding sequence**

Length: 1707 bp

```

1  ATGCCTAGCA CAGACCTTCT GATGTTGAAG GCCTTTGAGC CCTACTTAGA
51  GATTTTGGAA GTATACTCCA CAAAAGCCAA GAATTATGTA AATGGACATT
101 GCACCAAGTA TGAGCCCTGG CAGCTAATTG CATGGAGTGT CGTGTGGACC
151 CTGCTGATAG TCTGGGGATA TGAGTTTGTC TTCCAGCCAG AGAGTTTATG
201 GTCAAGGTTT AAAAAGAAAT GTTTTAAGCT CACCAGGAAG ATGCCCATTA
251 TTGGTCGTAA GATTCAAGAC AAGTTGAACA AGACCAAGGA TGATATTAGC
301 AAGAACATGT CATTCCTGAA AGTGGACAAA GAGTATGTGA AAGCTTTACC
351 CTCCCAGGGT CTGAGCTCAT CTGCTGTTTT GGAGAACTT AAGGAGTACA
401 GCTCTATGGA CGCCTTCTGG CAAGAGGGGA GAGCCTCTGG AACAGTGTAC
451 AGTGGGGAGG AGAAGCTCAC TGAGCTCCTT GTGAAGGCTT ATGGAGATTT
501 TGCATGGAGT AACCCCCTGC ATCCAGATAT CTTCCCAGGA CTACGCAAGA
551 TAGAGGCAGA AATTGTGAGG ATAGCTTGTT CCCTGTTCAA TGGGGGACCA
601 GATTTCGTGTG GATGTGTGAC TTCTGGGGGA ACAGAAAGCA TACTGATGGC
651 CTGCAAAGCA TATCGGGATC TGGCCTTTGA GAAGGGGATC AAAACTCCAG
701 AAATTGTGGC TCCCCAAGT GCCCATGCTG CATTTAACAA AGCAGCCAGT
751 TACTTTGGGA TGAAGATTGT GCGGGTCCCA TTGACGAAGA TGATGGAGGT
801 GGATGTGCGG GCAATGAGAA GAGCTATCTC CAGGAACACT GCCATGCTCG
851 TCTGTTCTAC CCCACAGTTT CCTCATGGTG TAATAGATCC TGTCCCTGAA
901 GTGGCCAAGC TGGCTGTCAA ATACAAAATA CCCCTTCATG TCGACGCTTG
951 TCTGGGAGGC TTCCTCATCG TCTTTATGGA GAAAGCAGGA TACCCACTGG
1001 AGCACCCATT TGATTTCCGG GTGAAAGGTG TAACCAGCAT TTCAGCTGAC
1051 ACCCATAAGT ATGGCTATGC CCCAAAAGGC TCATCATTGG TGTGTATAG
1101 TGACAAGAAG TACAGGAACT ATCAGTTCTT CGTCGATACA GATTGGCAGG
1151 GTGGCATCTA TGCTTCCCCA ACCATCGCAG GCTCACGGCC TGGTGGCATT
1201 AGCGCAGCCT GTTGGGCTGC CTTGATGCAC TTCGGTGAGA ACGGCTATGT
1251 TGAAGCTACC AAACAGATCA TCAAACTGC TCGCTTCCTC AAGTCAGAAC
1301 TGGAAAATAT CAAAGGCATC TTTGTTTTTG GGAATCCCCA ATTGTCAGTC
1351 ATTGCTCTGG GATCCCGTGA TTTTGACATC TACCGACTAT CAAACCTGAT
1401 GACTGCTAAG GGGTGGAAC TGAACCAGTT GCAGTTCCCA CCCAGTATTC
1451 ATTTCTGCAT CACATTACTA CACGCCCGGA AACGAGTAGC TATACAATTC
1501 CTAAAGGACA TTCGAGAATC TGTCAC TCAA ATCATGAAGA ATCCTAAAGC
1551 GAAGACCACA GGAATGGGTG CCATCTATGG CATGGCCCAG ACAACTGTTG
1601 ACAGGAATAT GGTTCAGAA TTGTCTCAG TCTTCTTGGA CAGCTTGTA
1651 AGCACCGACA CTGTCACCCA GGGCAGCCAG ATGAATGGTT CTCCAAAACC
1701 CCACTGA

```

-8/13-

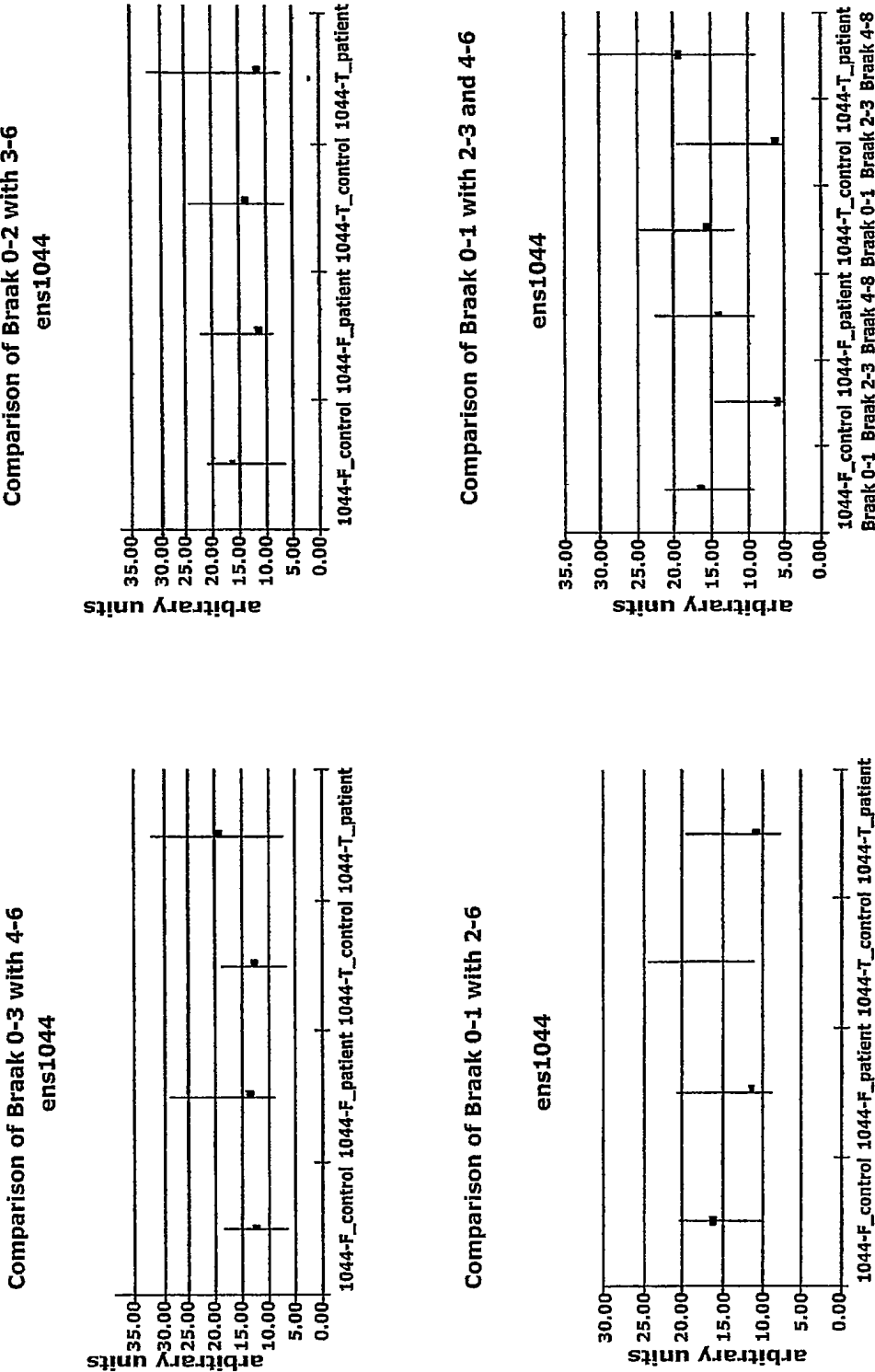
Fig. 6: Alignment of SGPL1 RT-PCR primers with human SGPL1 cDNA, SEQ ID NO.2

```
      1 TGCCCACTGATACCAAGACCA 21
        ||||||||||||||||
4802 TGCCCACTGATACCAAGACCA 4822
```

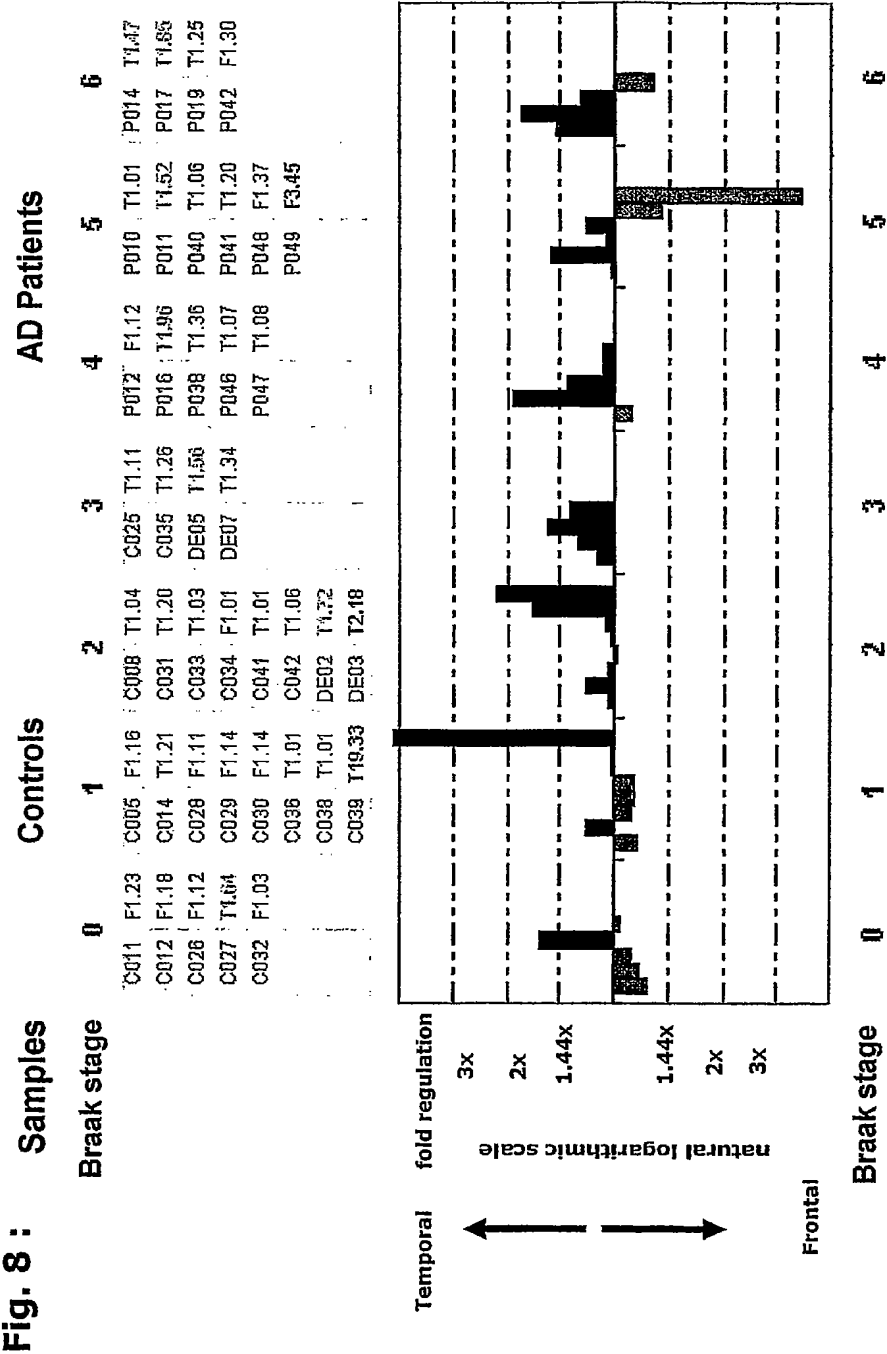
```
      21 TCCATCTCATTTCCAGGCACT 1
        ||||||||||||||||
4849 TCCATCTCATTTCCAGGCACT 4869
```


- 9/13 -

Fig.7: Analysis of absolute mRNA expression of SGPL1



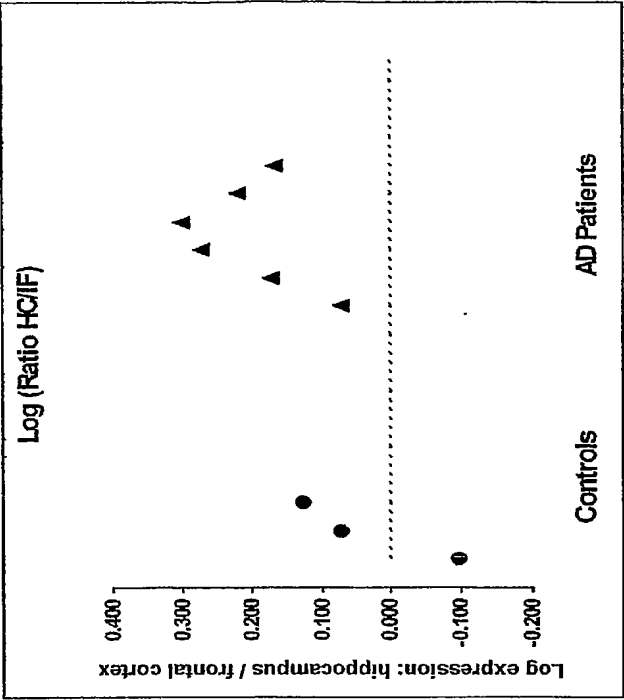
-10/13-



-11/13-

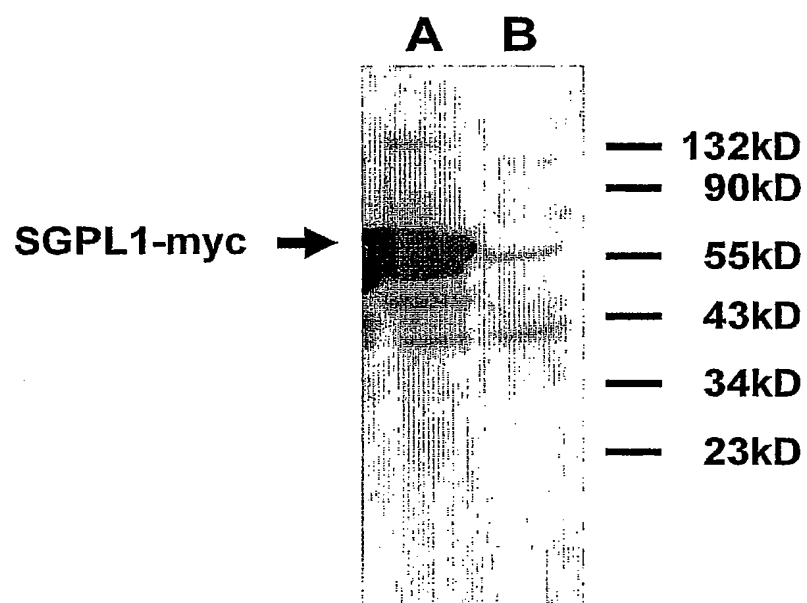
Fig. 9 :
sample Δ (fold)
(hippocampus / frontal cortex)

control C005	0.80
control C008	1.18
control C004	1.34
patient P012	1.18
patient P016	1.48
patient P010	1.87
patient P011	1.99
patient P014	1.65
patient P019	1.46



-12/13-

**Fig. 10: Western Blot of H4APPsw
cell protein extracts
labeled with anti-SGPL1-myc
antibodies**



**Fig. 11: Immunofluorescence analysis of
SGPL1 protein in neuroglioma cells**

